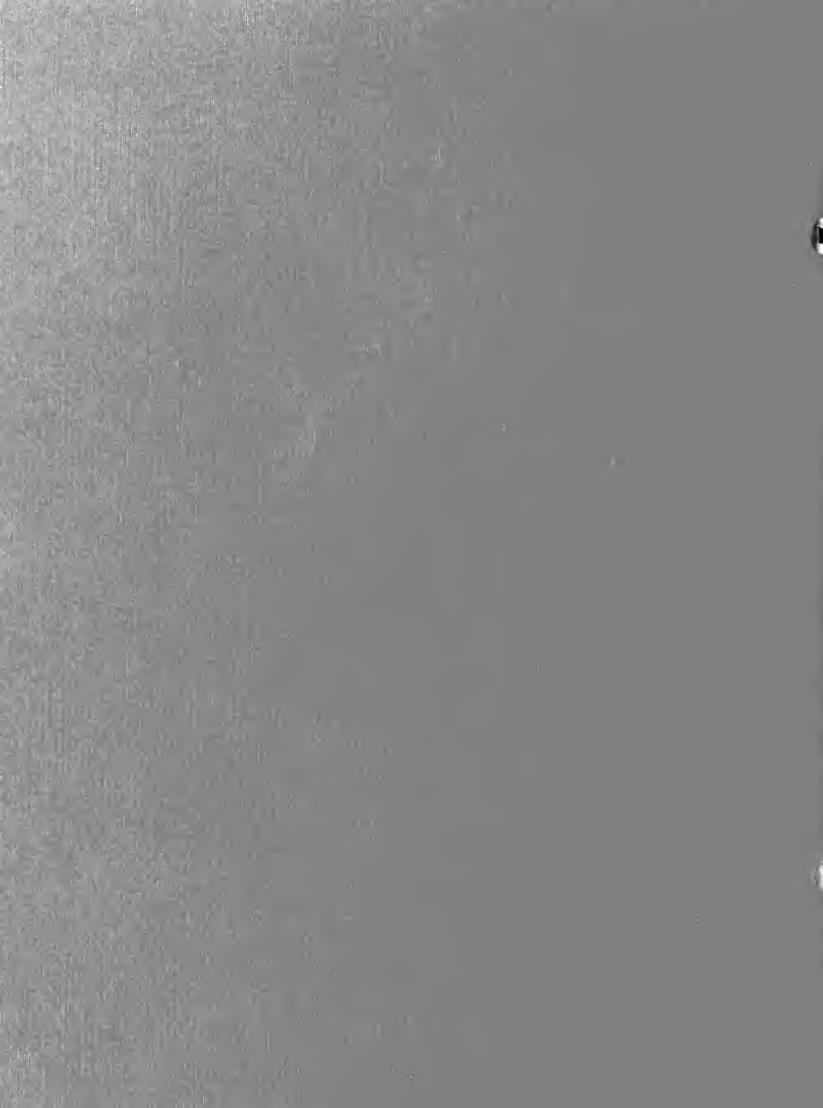# BEBR

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Designing Strategic Planning Systems: Cognitive
Elaboration, Cognitive Reduction, and the Quality of
Strategic Thinking under Conditions of Uncertainty,
Complexity, Conflicting Interests, and Emotional
Involvement

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Designing Strategic Planning Systems: Cognitive Elaboration,
Cognitive Reduction, and the Quality of Strategic Thinking
under Conditions of Uncertainty, Complexity, Conflicting
Interests and Emotional Involvement

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ABSTRACT

In recent years the practical effectiveness of formal strategic planning has come under increasingly vigorous questioning by practitioners (Kiechel, 1982; Gray, 1986). A very large number of problems and miscalculations often plague the specific steps in strategy formulation and strategy implementation processes (Nutt, 1984; Lyles & Lenz, 1982; Mintzberg et al., 1976; Moreover, recent scholarly research has produced equivocal evidence about the relationship between strategic planning and overall organizational effectiveness (Hogarth & Makridakis, 1981; Armstrong, 1982; Schrader et al., 1984). Why are so many impractical, unwise, and misguided plans chosen?

This paper begins by describing important, widely-shared, assumptions of academic-generated strategic planning models — particularly as these assumptions relate to strategists' ability to process information. Next, a brief survey of research evidence establishes that strategic decisions — as opposed to routine decisions — are characterized by uncertainty, complexity, conflicting interests, and ego involvement. In comparing the assumptions behind an information processing approach for planning to the context of strategic planning operations, I find that an information processing framework systematically de-emphacizes certain important issues in planning. The following section offers empirical evidence about two principal features of human information processing — cognitive expansion and cognitive reduction. How do cognitive expansion and cognitive reduction interact with the formidable challenges of uncertainty, complexity, multiple interests, and ego involvement in strategic planning? Lastly, the paper briefly describes and evaluates a number of promising techniques geared toward better aligning strategic planning methods with the practical aspects of strategic planning.

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I. DESIGNS FOR PLANNING SYSTEMS

1.THE PLANNING PROCESS.

High-quality strategic thinking is a scarce resource. Indeed, such thinking might represent the best asset that a company owns. During the last 20 years, academics and consultants have offered a wide array of ideas for designing strategic planning systems. These systems chiefly aim to guide and improve strategic thinking. Exhibit One lists some

established planning models. Nearly all models incorporate goal setting, environmental scanning, assessing alternatives, deciding on a strategy, and controlling plans; in one form or another. In view of their similarities, one is prompted to search for a common intellectual origin for these models. Why do we have these models of strategic planning and not some different type of models? Why are these models offered now?

i. Information Processing Models and Systems Thinking.

Norbert Weiner's cybernetic theory of machine servomechanisms (Weiner, 1948) plus the development of the computer shaped modern thinking about thinking (Ashby, 1952; 1956). Paradoxically, it was the development of computers that shaped ideas about thinking, not the reverse (Lindsay & Normann, 1977). A whole field of cognitive science; including cognitive psychology, artificial intelligence, linguistics, neurobiology and some social sciences have tied their fates to the computer/mind metaphor. Naturally, these ideas also invaded the organizational sciences. Contemporary models of human cognition (and planning) heavily rely on a computer analogy of the workings of the human mind/brain (Simon 1957; Simon & March, 1958).

ii The General Problem Solver.

The General Problem Solver (GPS) was a computer program capable (in principle) of tackling diverse problems such as playing chess, deriving geometrical theorems, and solving cryptarithmetic (Newell & Simon, 1972). GPS was designed to mimic human problem solving. The program asked "itself" three questions: What is my goal, what obstacles prevent me from achieving that goal, and what operators can overcome the obstacles. GPS used means-ends analysis to compare an initial state to a desirable goal. Then GPS broke a problem into a hierarchical structure of sub-goals. It used a set of algorithms and heuristics (operators), and sub-goals to search sequentially toward the goal state.

A wide range of objectives have stimulated the substantial effort expended in the search for effective planning systems. Despite the kaleidoscopic panorama of these objectives, nearly all of the recommended planning procedures closely adhere to an information processing model similar to the GPS. Models of strategic planning routinely embody the essentials of this

analogy between human information processing and machine information processing. The assumption that strategists are "information processors" is what makes models such as those in Exhibit One credible and interesting. It is hard to think of how strategic planning systems would be designed without that assumption. Systems theory also quietly inserts other assumptions into the basic framework for planning.

   iii. Derivative Assumptions.

● Strategic planning models follow a linear, step by step procedure.
In this respect, planning designs share a strong family resemblance to linear programming models and other logical-deductive techniques. The computer analogy forces it.

● Planning requires masterful performances in information-handling and decision making.
The GPS could not solve every problem. But it could follow straightforward algorithms and heuristics to translate a problem into an accurate internal representation, hold the information in memory without forgetting, and carry out complicated computations without making errors.

● The strategic planning model presumes a dominant, consistent set of priorities.
Planning models seldom recognize multiple legitimate interests, ambiguous, unstable, or incompatible preference functions. Planning needs an "objective function" in order to reach a decision. This is usually supplied by the CEO or the dominant coalition.

● Strategists' emotional status is screened out of planning.
Computers do not have emotions. The information processing model offers an image of clinical, unemotional detachment, unaffected by petty personal motives and emotional undercurrents.

   Is strategic planning best viewed as a form of information processing? To what extent do these assumptions hold up in practice? Can strategists' meet the heavy demands of accurately processing planning information? Are strategists "objective enough?" To begin to answer these questions we need to investigate two questions:

● What information processing demands do strategic decisions make?

● What kind of information processors do strategists make?

1. "WICKED PROBLEMS"

Mason & Mitroff (1981) identified several characteristics of a pure, ill-structured, "wicked", problem: no definitive problem formulation, no single criteria system or rule defines correct solutions, no stopping rule for ending formulation process, an innumerable list of possible operations on the problem, uncertainty about attacking the problem at a proper level, and each wicked problem is unique. Four characteristics of strategic planning make it a very wicked problem: uncertainty, complexity, conflicts of interest, and emotional involvement.

i. Uncertainty.

In order to succeed, strategic plans must diagnose, evaluate, and respond to uncertainties. Accordingly, much scholarly and practitioner effort is devoted to problems in forecasting and environmental scanning. Moreover, authors argue that organizational environments are becoming increasingly "turbulent" (Toffler, 1970). Braybrooke & Lindblom (1963), Mintzberg et. al. (1976), and Mason & Mitroff (1979) each point out that strategy making essentially entails a process of defining and coping with risky, complicated, ill-structured issues. Therefore, coping with uncertainty is a major element of planning.

ii. Complexity.

Strategists face a daunting task of learning interrelationships among hundreds of company and industry phenomena. The complexity is intensified by unstable relationships among phenomena, long chains of cause and effect, wide ranges of potential strategic action, and large a number of participating individuals and groups. Writers such as Quinn (1980), Mintzberg (1973), and Peters and Waterman (1982) place quite a bit of faith in strategists' intuition. But, one can easily point out instances where intuitions have led to disasterous strategies. Studies show that highly trained professionals such as bankers and stock-market analysts (Clarkson, 1962) and business managers (Argyris & Schon, 1978) occasionally slip into psychological traps and use inappropriate heuristics to deal with complex relationships. In

strategic management research, Schwenk (1984) and Stubbart & Ramaprasad (1985) have demonstrated the difficulties which complexity poses for strategists. Based on research evidence, making correct inferences about complex relationships presents a task which decision makers find difficult to master.

iii. Conflict of Interests.

A particular organization represents only one minor interest in a broad inter-organizational network (Bresser & Harl, 1986). Leading-edge models of planning acknowledge the inevitable tradeoffs among organizational stakeholders, and try to incorporate multiple interests into the planning process (Freeman, 1984). Additionally, the whole field of social issues/ social responsibility in business reflects the changing and ambiguous nature of corporate responsibilities to stakeholding groups. Contemporary strategists must grapple with a range of contending interests which make claims on corporate resources and affairs.

iv. Ego involvement.

We know from interior experience that our private interests and emotions can often affect our thinking. Freud claimed that our conscious, rational mind is largely subordinated to our more powerful unconscious, emotional drives. The responsibilities and autonomy of general management duties guarantee opportunities to advance self-interests involvement and occasions for vivid emotional experiences. (Harr, 1985; Iacocca & Novak, 1985; Kleinfeld, 1986). Therefore, general managers' emotional involvement in strategic planning forms an important hidden issue to be taken into account as part of the task of planning.

2. SUMMARY.

The basic puzzle is this: Even though research has documented the uncertain, complex, conflictual, and emotionally-involving nature of general manager's work (Mintzberg, 1973; Quinn, 1980; Kotter, 1982; Donaldson & Lorsch, 1983; McCall & Kaplan, 1895); planning design proposals originate with information processing models having limited applicability to the tasks at hand. The approach has been deductive-normative rather than empirical. A GPS model is simply imposed on the strategy making problem with little direct attention to strategists'

observable capacities for planning effectively under such conditions, or the cognitive demands implicit in planning according to these information processing models.

III. STRATEGISTS AS INFORMATION PROCESSORS: COGNITIVE ELABORATION AND COGNITIVE REDUCTION.

A pivotal question about strategic planning can be posed as follows: If strategic decisions are characterized by uncertainty, complexity, conflicts of interest, and emotional involvement, can the average strategist's thinking satisfy the assumptions of the information processing role envisioned?

1. HUMANS AS INFORMATION PROCESSORS?

Building an empirical foundation for the cognitive aspects of strategic planning from scratch would entail an enormous task. Fortunately, research results from many fields have already laid a partial groundwork. Relevant issues have received extensive study in the fields of organization behavior, attribution theory, social psychology, social inference, behavioral accounting, consumer decision-making, artificial intelligence, and behavioral decision theory.

Before launching into the research evidence on uncertainty, complexity conflict of interest, and emotional involvement, it is important to give a brief synopsis of two key background features of human information processing -- cognitive elaboration, "opening processes," and cognitive reduction, "closing processes."

1. COGNITIVE ELABORATION: "BEYOND THE INFORMATION GIVEN."

Strategic management tracts stress objectivity. "Objectivity" in the sense that right-thinking observers of objects and events must agree upon what these objects and events represent, and their derivative implications. Hence, theorists talk about the "objective environment" (Bourgeois, 1980). But, cognitive science raises unsettling questions about "objectivity." According to Bruner (1957):

"The most characteristic thing about mental life, over and beyond the fact that one apprehends the events of the world around one, is that one constantly goes beyond the information given."

Similarly, Lindsay & Normann (1972) describe an information-finding process as mainly an

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interpretative activity:

> "A large part of the interpretation of sensory data is provided
> by the knowledge of what the signal must be, rather than from the
> information contained in the signal itself. This extra
> information comes from the context of the sensory event" (p. 133).

Human information processors are unlike computers -- people are not just information "clerks."

Instead, cognitive processes form a continuum. Automatic processes, requiring little attention, little effort, and minor mental activity, occupy one end of this continuum. Recognizing colors is an automatic process which offers good prospects for "objectivity." At the other end of the continuum lie "effortful processes . . . greatly influenced by such conditions as personal intention, learning, and social influence" (Kiesler & Sproull, 1982). Effortful processes invoke complex webs of sensing, coding, decoding, storing, selecting, channeling, etc. For example, in studying human memory, Bartlett (1932) and Neisser (1967, 1982) found that remembering is a dynamic, erratic process, intrinsically shaped by personal expectations, motivations, and ideas of what must-have-been.

None of the significant phenomena of strategic management — "environment," "organization structure," "strategic group," "diversification," "general management," -- are matters of direct sensory perception (like color recognition). Surely, thoughts about strategy represent an active-synthetic process, not an automatic process. As Neisser remarked:

> "Although we cannot always see only what we want to see, we generally
> can think what we like." (Neisser; 1967, p. 305).

Themes of active processing and "enactment" have recently appeared in organization theory (Weick, 1979) and strategic management (Smircich & Stubbart, 1985; Chaffee, 1985). Enactment connotes an incorrigible subjective, "mindful," and historical aspect of management, opposite to many scholars' quest for impersonal, objective, grounds for knowledge and action. Strategists are inquisitive about their industrial playgrounds. They want to know why things happen, to fully understand the games they are playing. Strategists invent information, building attributions into complex schematic representations of an "environment," which provide a basis for inferences about strategic actions. However, their strategic knowledge and the

wisdom of their actions inevitably rest on the active, shifting foundations of innumerable private memories, motives, experiences, interpretations and inferences (Hall, 1976, 1984). Therefore, analysts search in vain for an "immaculate perception." There is no neutral matrix for separating what is "given" from what is added by the "mind."

In their ability to actively process information, strategists differ greatly from computers. This difference is important because it has large practical effects, but doesn't receive much attention in strategic planning designs. Typical planning models ignore this difference by stressing their devotion to "objective" information.

2. COGNITIVE REDUCTION: INFORMATION OVERLOAD AND HEURISTIC REASONING

The modern business environment teems with puzzling, complex, and uncertain facts and events. Individuals command limited mental capacity for noticing, and attending to information available to them (Miller, 1956). Simon (1955) wrote that in a context of infinite potential information, managers must arrange an infinitely reduced problem space — in line with their bounded rationality:

" Furthermore, managers "satisfice", choosing the first satisfactory
solution . . . content to rely upon . . . a drastically simplified model of
the buzzing, blooming confusion that constitutes the real world" (1976, p.xxix).

No strategist can possibly attend to more than a slight fraction of this tidal wave of potential information (Hambrick & Mason, 1984). For them, information overload is a normal condition. Studies show that coping with a tidal wave of information fosters subjective, idiosyncratic heuristics in strategy making (Keegan, 1974; McCaskey 1982; Schwenk, 1984; Duhaime & Schwenk, 1985, Barnes, 1984). Because strategic planning involves enormous informational complexities, it also necessitates drastic representational simplifications. But theorists who have offered strategic planning models have done little to explain how strategists can dig out from underneath the information avalanche that their planning models create. Even authors promoting explicit "information processing" approaches to strategic planning (Galbraith & Nathanson, 1979; King & Cleland, 1978) offer few specific guidelines on handling information overload in planning.

3. SUMMARY.

Cognitive elaboration and cognitive reduction establish a background for thinking about strategic planning systems. Planning models which ignore these basic parameters of thinking processes and and their interaction with the demands made by strategic planning are taking too much for granted. Such oversights may partly account for the many failures of planning in practice. The following sections summarize research evidence about cognitive elaboration and cognitive reduction as these affect strategic thinking.

IV. THINKING ABOUT UNCERTAINTY
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1. ACTIVE INFORMATION SEARCH.

Search is a outreaching, elaboration process. Active search is best viewed as a positive choice, not a negative filtering or a cue-driven behavior (Neisser, 1967). It begins at the focal point of major uncertainties in the current organizational situation (Simon&March, 1958). The greater the uncertainty, the greater the incentive to actively search (Ebert & Mitchell, 1975). If decision makers cannot find the right information along simple, familiar, well-worn paths in memory, they expand search; question people, head for their files, hire consultants, and so forth. Research shows the overwhelming importance for later steps in decision making of analysis, sorting, and storage of information during active search (Posner, 1973).

Studies of strategic management reflect the ad hoc nature of environmental scanning in corporations. For instance, Mintzberg et. al., (1976) found evidence of extensive active searching for strategic alternatives. Fahey and King (1977) found a wide range of scanning practices. Stubbart (1982) found that scanning practices do not follow any predictable evolution. Lenz & Engledow (1986) recently confirmed those earlier studies, finding that the subjective, and contextual aspects of environmental scanning make it difficult to formalize as a routine organizational process. Each of these findings emphasizes the elaborative elements of scanning in practice.

2. CREATIVITY

Relentless research effort has gone into explorations of the psychology of creativity.

Topics have ranged from studies of scientists (Roe, 1952) and writers (Barron, 1955), to introspective accounts of the creative process (Wallas, 1926). Creative processes apparently require intensive cognitive elaboration and reduction, spanning a protracted period (Wallas, 1⁹ Simon (1966) described creative thinking as a hierarchical building-up of elements. "Familiarizing" is a long term process of experimenting with representations of a problem and storing information about it. Long term goals and succeeding waves of experience interact to gradually alter goals and memory. After a task is set aside, some problem information and goal information is always forgotten. When the problem is approached again, the problem solver actively reconstructs goals and information, changing what is "known" about that problem. This process explains how periods of "tinkering" can lead to sudden strategic inspirations. Although valuable strategic insights seldom occur, we know that some strategists are quite inventive (e.g. Steve Jobs of Apple; Ray Kroc of McDonald's; Alfred Sloan of General Motors). But, other inventive strategies (e.g. the US Football League) lead to disaster. Hence, creativity in strategic thinking comes as a mixed blessing.

3. AUTOMATIC ATTENTION.

Individuals react to information which is concrete, salient, emotionally interesting and distinctive. Vivid information can arrive as an event (such as the Surgeon General's Report on smoking; Miles & Cameron, 1982), or an impressive communication (Hijacker's demands). Nearly everyone over 30 remembers November 22, 1963. Salient people and events offer themselves as causes of other events (Taylor & Fiske, 1978). Automatic attention has a sharp reductive effect. But, salient phenomena also offer an opportunity for explanation, inference, and innuendo — elaborative processes.

For a business, salient strategic information includes: sudden large changes in financial ratios, unpleasant regulations, emergencies, scandals, flambouyant goings-on, or spectacular competitive developments. Strategic management research documents instances of attention-getting strategic issues (Dutton, et al., 1983; Keegan, 1974, Lyles & Mitroff, 1980; and Kiesler & Sproull, 1982) which diverted energy away from less-riveting but more important issues.

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4. IGNORING UNCERTAINTY

Decision makers often ignore uncertainty to avoid the anxiety it would induce (Rokeach, 1960; Janis & Mann, 1977). Cyert & DeGroot (1970) found that firms acted as if interest rates and unemployment policy would always remain at recent levels. Carter (1971) observed decision-makers' efforts to reduce perceptions of uncertainty in a computer software firm. Borch (1968) noted that corporate managers expressed annoyance with consultants who couched their advice in probabilistic terms.

These findings suggest that executives might ignore important strategic uncertainties.

5. ESTIMATING SUBJECTIVE PROBABILITIES.

Behavioral decison theory devotes nearly its entire effort toward studying decision making. Researchers have unearthed a large variety of disturbing findings (see Hogarth 1980, and Taylor, 1984, for reviews):

- People do not evaluate new information in the way that Bayes' Theorem should apply.

- Individuals inaccurately judge the importance of data types and sources

- Decision makers ignore the base rate at which phenomena occurred in the past.

- People believe that events are likely if they can easily recall or imagine instances.

- Making effort toward a goal, or even anticipating such effort increases subjects' belief that a desired outcome would actually occur.

- Even sophisticated scientists make unwarranted generalizations using results derived from small samples.

- Outlying values overly affect estimates.

- People often make predictions about future events by anchoring on a cue (for example, last year's profit) and adjusting for the present situation (this year).

Although much of this evidence comes from lab experiments with non-strategists, reseach evidence in the strategy field indicates that strategists too experience severe difficulties when dealing with uncertainty (Starbuck & Hedberg, 1977; Anderson & Paine, 1975; Wilensky, 1967; Duhaime & Schwenk, 1985; Yates, 1983).

6. SUMMARY.

Individual elaborative and reductive operations regarding uncertainty have important

strategic consequences. Accurate forecasts are a prerequisite for sensible strategic plans. Yet institutional forecasting efforts repeatedly fail (Ascher, 1978). Studies of forecasting accuracy in a variety of realms, the GNP, the stock market, technology, and political events always show an abysmal record (Hogarth & Macridakis 1981).

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V. THINKING ABOUT COMPLEX STRATEGIC ISSUES
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1. INTRODUCTION.

Strategists work under constant pressure to provide accurate explanations about events: for themselves, for other organization members, and for important external stakeholders. But, organizational events form a chaotic, diverse, and multi-dimensional realm. Therefore, strategists have great latitude in rifling through events, channeling their attention toward certain categories of events, and attributing cause and effect explanations -- for creating idiosyncratic interpretations. Strategists' conclusions about their experience, in turn, forms the knowledge base for thinking about past, present, or future strategies.

2. LEARNING THROUGH CAUSAL ATTRIBUTIONS AND INFERENCES,

Attribution research and concept-learning studies observe how people explain causes and relationships among personality, behavior and events. According to that research, several practices stand out (see Nisbett & Ross, 1980 for specific studies).

● Subjects believe that fortuitous associative-pairing of events prove causal connections.

● Furthermore, learners are so anxious to find causal relationships, that they even find explanatory rules for random symbols or events.

● Explanations for an event often favor personality and dispositional causes over structural "scientific" explanations.

● Learning becomes particularly difficult when people attempt to inductively learn complex rules and interactions.

●The higher the memory load, the poorer the learning rate.

● People avoid complex calculations in favor of simpler heuristics.

● After subjects choose a tenable hypothesis they often accept confirming data and reject disconfirming data.

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0 Learners accept less-convincing data when they receive a lot of it and it arrives slowly.

0 In the absence of apparent relationships, subjects are extremely insensitive to covariation.

0 Errors are magnified when data are observed sequentially as in everyday experience.

These findings outline both elaborative and reductive tactics applied to relatively simple learning tasks. But, a strategist's must attempt to understand more complex, dynamic situations. Research shows that it is safe to conclude that strategists find it very difficult to grasp complicated relationships and intricate industrial systems (Hall, 1976 & 1984; Stubbart & Ramaprasad, 1985).

3. COMPLEX KNOWLEDGE STRUCTURES.

Patterns derived from in experience are organized into cognitive structures variously called schemas, scripts, or cognitive maps (Abelson, 1976; Cantor & Mischel, 1977; Taylor & Crocker, 1981).

"Schemas . . . represent our knowledge about concepts, objects, situations, events, sequences of events, and actions. A schema contains, as part of its specification, the network of interrelations that is believed to normally hold among consitituents of the concept in question" (Rumelhart, 1980, p.34).

Complex schemas represent elaborative processes because they are created through comprehension, accretion, memory trace, tuning and refinement. New experiences and thoughts incrementally modify and extend existing schemas.

Schemas also have a reductive, "closing" function. For example, knowledge is tied to career histories (Dearborn & Simon, 1958). Schemas impose structure, impart meaning, and define the parameters of interpretation for information, actions, and experiences; allowing individuals to cut corners and make quick efficient diagnoses. Schematic knowledge resists change, routinely surviving falsification (Kuhn, 1962). The general pattern is premature commitments and insufficient revisions of schematic knowledge.

Perhaps strategists' knowledge of their organization, its competitors, characteristics, goals, strengths and weaknesses, and so forth, reside in schemas (Walsh, 1985). Huff (1982) conjectured that strategistic groups may also borrow schematic knowledge from each other.

The few studies available suggest that strategist's schematic knowledge differs drastically from the knowledge taught in business schools (Ford & Hegarty, 1984) and prescribed by theory (Shrivastava & Lim, 1984). If strategic knowledge is retained in schemas, thoughts about planning based on these schemas will restrict the elaborative thinking necessary for coping with dynamic environments.

4. DEDUCTIVE REASONING.

Computers are perfectly logical. They can't operate any other way. But evidence accumulating over the last 30 years suggests that human reasoning is unlike computer reasoning. Individual reasoning frequently fails the test of formal logic (Gardner, 1985). But, paradoxically, human reasoning works well for many tasks. The theoretical trick is explaining both the power of human reasoning and its shortcomings.

Johnson-Laird (1983) has studied syllogistic reasoning. According to him, reasoners do not translate premises into truth tables, follow syllogistic rules, and so forth. Instead, they use mental models, an array of propositional representations of spatial, temporal, and causal relations. These mental models are robust and viable under many conditions of reasoning, but they incorporate many mistakes in formal reasoning. Mental models account for a wide range of empirical data on reasoning. The models also work in computer simulation.

Strategists must draw important conclusions all the time. Therefore, the logical abilities of strategists are an important subject in cognitive reduction. If strategists reasoning does not follow the tenets of formal logic, then important adjustments to designs for planning must ensue.

5. FORGETTING AND RECONSTRUCTING MEMORY.

Human memory is not like computer memory. After a monumental set of studies Bartlett concluded:

> Remembering is not the re-excitation of innumberable fixed, lifeless,
> and fragmentary traces. It is an imaginative reconstruction, or
> construction, built out of the relation of our attitude towards a whole
> active mass of past experience. . . It is thus hardly ever really exact,
> even the most rudimentary cases of rote recapitulation, and it is not at all
> important that it should be so (Bartlett, 1932, p.213).

Remembering and forgetting form an interesting collision between elaborative processes and reductive processes. Studies of memory reach many interesting conclusions, (see Eysenck, 1984; Posner, 1973; Neisser, 1967 & 1982; for reviews):

- The activity of remembering itself affects memory contents.

- Memories decay, losing many of their peripheral associations and becoming less complex.

- Details are forgotten while meaning is retained.

- More difficult mental operations produce more forgetting.

- Eyewitness testimony is quite unreliable.

- When people encounter new information, memory structures sometimes fill in details about unknown or uncertain aspects of seemingly familiar phenomenon.

- People forget information when it doesn't fit their agenda or their plans.

Since strategists must remember (and forget) prodigious amounts of information to support a planning process, planning must take memory capabilities and functions into account.

6. REASONING BY ANALOGY AND METAPHOR.

Attractive analogies or metaphors can elaborate new options, unravel perplexing choices and galvanize decisive actions (Isenberg, 1984). But simplistic metaphors and analogies can also exert a powerful reductive influence over executives' thinking. For instance, the "domino theory" of communist advance depends on both analogical and metaphorical elements. Careless or unwarranted metaphors and analogies can also lead decision makers to false conclusions:

- Axelrod et al. (1976) uncovered examples of metaphorical reasoning in foreign policy deliberations.

- Duhaime & Schwenk (1985) claimed that unwarranted metaphors and analogies interfered with sound reasoning about acquisitions and divestments.

- May (1973) and Neustadt & May (1986) traced a large number of cases false analogies lead top-level government officials to make bad decisions.

Considering the powerful attraction and pervasive use of metaphors and analogies, in conjunction with their potential for disaster, the topic deserves attention during planning.

7. BOLSTERING SINGLE-ALTERNATIVE STRATEGIES.

Cognitive bolstering of decisions has been extensively studied by social psychologists.

Festinger (1957) wrote that decision makers experience "cognitive dissonance" after important decisions; worries about the negative features of the chosen alternative - bother that decision maker. To end these worries, the decision maker restructures her thoughts in favor of the chosen alternative. Janis & Mann (1977) reviewed a large number of studies showing how decision makers also bolster their decisions before decision making:

> ". . . when a decision maker reaches a point when one alternative is clearly more satisfactory than others, he puts an end to residual conflict by judging that the uncertain good consequences are more probable than the uncertain bad consequences" (p. 94-95).

A number of studies show that strategic decisions often fail to evoke the complex thinking which they deserve:

- Alexander (1979), Mintzberg et al., (1976), and Nutt (1984) each catalogued decision processes wherein only a single alternative was seriously proposed, carefully evaluated, and implemented.

- Wright (1979) provided an example of how bolstering can affect strategy in his discussion of how General Motors management delayed small-car proposals by continually asking for more information on them.

- According to Yates (1983) auto industry executives discarded alternatives involving relatively greater uncertainty.

8. SUMMARY.

Research evidence suggests that executives' abilites for learning about complex industrial and organizational phenomena are more fragile, restricted and vulnerable than generally acknowledged in the strategy literature. But precisely these abilities — disentangling complex causal networks, skills in inference, and proficiency in detecting important changes — are essential for effective thinking about strategy.

VI. THINKING ABOUT MULTIPLE INTERESTS

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1. MORAL REASONING.

Kohlberg (1969) studied individuals' abilities to reason about moral questions. He developed a classification system consisting of four stages of moral development. Each level demarcates a more complex type of moral reasoning. Kohlberg found that few individuals reach the postconventional level of cognitive development, the most sophisticated

and elaborative type of moral reasoning.

The moral reasoning of general managers can affect a strategic planning process, particularly as a strategist must weight the rights, obligations, and rewards for various organizational stakeholders. Scholarly and journalistic accounts report numerous examples of poor moral reasoning affecting top management activities:

- Staw & Szwajkowski (1975) showed how environmental pressure promoted morally improper business decisions.

- John Z. DeLorean was described as a business hero one year (Wright, 1979) and went to jail soon after.

- Chief executives are charged with bugging offices and hiring spies (Harr, 1985).

- Recent books offer a portrait of arbitrary, greedy, and vengeful general managers (Iacocca, 1984; Mintz, 1985; Perry & Dawson, 1985; Auletta, 1986).

2. GROUPTHINK.

Janis (1972) reported that certain conditions: directive leadership, insulation of a group, and lack of systematic procedures for search and appraisal; combined with high group cohesion and high stress levels fosters groupthink:

". . a collective patterns of defensive avoidance, lack of vigilance, unwarranted optimism, sloganistic thinking, suppression of worrisome defects, and reliance on shared rationalizations to bolster the least objectionable alternative" (1972; p.399).

Many corporate strategy making situations increase the danger of "groupthink" (Janis & Mann, 1977; Neustadt & May, 1986). Groupthink will produce unwarranted cognitive reductions. Ironically, the current emphasis on developing cohesive and committed corporate cultures often reads like a prescription for groupthink!

3. SUMMARY.

A few sensational, well-publicized cases of general manager's who trampled on the rights of corporate stakeholders does not substantiate a blanket indictment of general managers' moral reasoning. Instead, these incidents and reports highlight the importance of active cognitive elaboration and reduction as a legitimate topic in understanding general management thought and behavior. They also warn theorists that blind faith in the CEO's restraint and wisdom for making tradeoffs between various stakeholders is not enough.

"Nothing is greater to one than one's self is."
                              Song of Myself, Walt Whitman

1. INTRODUCTION.

When strategy texts discuss general managers' personalities and values they chiefly stick to positive role characterizations, such as the "organizational leader," "personal leader," and "architect of purpose." (Andrews, 1980). They also stress the strategist's "objectivity." For instance, although many articles talk about the problem of handling a poorly motivated labor force, none discuss the problems of handling poorly motivated CEOs. This orientation hampers the development of a realistic empirical profile of strategists.

2. EGO-CENTRISM.

Ego-centrism permeates all aspects of thinking (Eysenck, 1984). People view world events from their own privileged position in the world. Ego-centrism is universal and significant. General manager's power and position permit them to indulge their personal motives, needs, and emotional problems to an extent open to few other public figures — and surely more than most organization members.

Lombardo & McCall studied over 100 top managers working in large firms. Among those 100 executives, over 70 reported having had top management superiors who were emotionally intolerable. Higher-ups were described variously as, ". . . a living snake and a pathological liar . . . Attila . . . Being wrong never slowed him down . . . he treated people like dirt . . he knew everything, wouldn't listen and was pompous" (quoted in Argyris, 1985 p.6). We have no reason to believe that general managers are immune to ego-centric motives or that their emotional health is especially high (Kets De Vries & Miller, 1986). Popular books about organizational culture and excellent companies even stress the desirability of emotional commitment (Peters & Waterman, 1982). Therefore, modern organizational arrangements — such as the rubberstamp board of directors — can operate to reinforce strategists' ego-centric and emotion-driven behavior.

3. ILLUSIONS OF CONTROL.

Langer (1975) and Larwood & Whittaker (1977) found that executive decision makers overestimated the degree to which outcome-events submitted to their personal control. Successful business strategists felt that they could easily control people and events. Encouraged by overconfidence, elaborate but unrealistic plans can encourage strategists (and other members) that future events will effortlessly into place according to plan. Hogarth & Makridakis (1981) pointed out that inasmuch as planners thirst for control over important future events, planners are especially susceptible to illusions of control (also, Schwenk, 1984).

4. INTOLERANCE OF AMBIGUITY AND DOGMATISM.

Intolerance for ambiguity is defined as:

> ". . . . undue preference for symmetry, familiarity, definiteness, and regularity; tendency toward black-white solutions, oversimplified dichotomizing, and premature closure" (Adorno et. al., 1950).

Dogmatic individuals rapidly decide, but use little information (Taylor, 1984). Driver & Mock (1975) reported that "decisive" decision-makers became rapidly overloaded by a complex, structured task. They cling tenaciously to their decisions (Brengelmann, 1959).

If some strategists can only tolerate low levels of ambiguity, then they will probably make ill-considered decisions in turbulent environments.

5. EXPERIENCE.

Executives' capacities for noticing and attending to phenomena vary as a function of their experience, and training (Lawrence & Lorsch, 1967; Dearborn & Simon, 1958; Stevenson, 1976). The speed, complexity, and soundness of their reasoning is partly a function of familiarity and knowledge-organization. Some theorists (Kotter, 1982; Mintzberg & Waters, 1983; Isenberg, 1984: Ungson et al.,1981) claim that general managers accurately process information because of their long and varied experience in decision making. But experience does not in itself constitute an unalloyed panacea. What matters are the lessons drawn from experience and the learning strategies applied to current situations (Argyris & Schon, 1978).

Studies of intuition show that it is highly fallible (Dawes, 1976). Some research shows

that simple quantitative models can outperform experts in making certain judgments

(Dawes & Corrigan, 1974). Argyris (1985) showed that "learning" often went haywire during

strategy deliberations for subtle reasons which executives did not understand. Executives

making acquisitions had little insight into their own decisions (Stahl & Zimmerer, 1984),

This research suggests that the "closing," narrowing and focusing functions of experience

are problems in novel strategic settings.

6. MOTIVATION.

People react to information relevant to their goals (Einhorn & Hogarth, 1981). Setting

high objectives apparently improves employee performance (Locke, 1968). Theorists extend these

studies to reason that general managers having high personal stakes in strategic decisions will

improve their decision-making. Consequently, many theorists advocate management by objectives

to ensure strategists' compliance with organizational objectives (Andrews, 1980).

But high stakes (associated with high stress and high ego investment) can reduce cognitive

efficiency, not just raise it (Schroeder & Suedfeld, 1971; McGraw, 1978). High incentives

increase the liklihood that decision makers will apply previously acquired skills that work

well for simple routine tasks to complex, novel situations (McGraw & McCullers, 1979).

Incentives impair performance on intrinsically interesting, open-ended, non-obvious tasks

(McGraw, 1978). Incentives increase attentional selectivity, and decision making speed at the

expense of flexibility and accuracy; sacrificing cognitive elaboration to cognitive reduction

(Posner, 1973).Fischoff & Goiten (1984) concluded;

> "Although the evidence is still sketchy, at the moment there is no good   empirical
> believe that judgmental biases are reduced   appreciably . . . when a
> judgement carries high stakes . . . "(p. 506).

Therefore, the contemporary romance between MBO and planning is not not an unmitigated

benefit.   High motivation can have adverse effects on the quality of strategic thinking.

7. DEFENSIVE REASONING.

Argyris found three characteristics of defensive reasoning infecting strategy making:

using soft data, making private inferences, and relying on untested conclusions (Argyris, 19

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Defensive routines are hard to spot and destroy because they are sustained by cultural norms of caring and thoughtfulness — not by meanness or self-interest alone. Defensive routines quickly take hold when top managers try to communicate threatening information. For example, potential changes in strategy or poor job performance of another executive evoke defensive reasoning.

In top management settings, defensive routines corrupt learning and make important issues undiscussable — upsetting a balance between cognitive reduction and cognitive elaboration, stimulating cognitive reduction when cognitive elaboration would be more helpful. Defensive routines mask an important gap between theories executives espouse and theories they actually follow. Worse, executives remain largely unaware of their own reasoning processes. Moreover, these defensive routines become self-reinforcing. Defensive reasoning can severely undermining strategic planning. Argyris (1985) claims that it is the single largest reason for failures in strategy implementation.

8. ESCALATING COMMITMENTS

Executives personal identification with particular strategies can entrap them by encouraging "escalating commitments" to bad strategies in spite of feedback. Executives attribute project difficulties to exogenous events, neglect investment limits, and ignore information about costs (Staw & Ross, 1978). A combination of ego involvement (responsibility for projects) and illusions of control, channel decisions toward "forcing" projects which are not working. The stronger a strategist's original commitment to a bad project, the more likely he/she will commit additional resources to it.

Staw (1982) delineated four conditions likely to favor escalating commitments: personal responsibility for the action, personal responsibility for the consequences, public commitment to the project, and the irrevocability of the commitment. These conditions surely characterize many situations involving strategic commitments. For example, Duhaime & Schwenk (1985) gave examples of escalating commitments in corporate acquisitions and divestments.

9. STRESS.

"Hot" processes are set in motion by information which challenges the continued viability of a corporate strategy (Janis & Mann, 1977). "Hot" decision making situations involve uncertainty and doubt, important self interests, and less-than-perfect alternatives. These situations create strong decision-maker ego-involvement, and engender acute anxiety about the high risks and high costs of mistakes. Such conditions evoke emotional reactions such as hesitation, vacillation, emotional stress, agitation, and apprehension. Research shows a fairly consistent pattern of effects associated with high stress-high arousal (See Eysenck, 1

- increased information selectivity.

- faster decision making.

- greater reliance on prior knowledge and behaviors.

- reduced ability to identify or discriminate unfamiliar patterns.

- increased errors and impaired intellectual functioning.

- When decision makers fear a threat, they try to increase their
  control, and concentrate power.

In summary, stressful conditions evoke severe cognitive reduction.

A crisis often provokes or accompanies strategic planning (Mintzberg et. al., 1976). It stands to reason that strategic decisions, decisions which often take place under time pressure, that always involve high personal stakes, that require public commitments to uncertain courses of action, can generate very high stress levels. Empirical research gives little support to the notion that strategic decisions are not stressful or the notion that strategists can remain clinically, calculatingly, emotionally detached from a strategic planning process. Studies document how strategic decisions place strategists under emotional stress (Sorenson, 1966; Nixon, 1962; Wohlstetter, 1963; Iacocca & Novak, 1984). These studies show that stressful decision processes can lead to defective decision making processes, for instance adherance to wornout strategies, capricious changes in strategy, or defensive avoidance of strategic issues.

In spite of the obvious disruptions to strategic planning which stress might engender,

practically no planning–design literature discusses relationship between planning and stress.

10. SUMMARY OF EGO INVOLVEMENT

There is no theoretical or empirical reason to believe that strategists are especially detached, neutral, or calculating, compared to other decision makers. On the contrary, their unusually high autonomy allows them to give freer rein to their emotions (for example, anger, impatience, or jealously) than other employees. Additionally, the work of a strategist has task characteristics which stimulate emotional involvement: highly-visible personal responsibility, high personal career stakes, risky decisions, dealing with conflicting interests, and extensive interpersonal contacts. By suppressing these issues through unrealistic assumptions, strategic planning designs lay the groundwork for planning failures.

VIII. PROMISING TECHNIQUES FOR COPING WITH UNCERTAINTY, COMPLEXITY, AND MULTIPLE INTERESTS AND EGO INVOLVEMENT IN STRATEGIC PLANNING.

Section III outlined a set of assumptions about human information processing consistent with most strategic planning models. These assumptions surfaced because the generic strategic planning models closely parallel the General Problem Solver. If these assumptions don't hold to a sufficient extent, then the strategic planning model loses its promise and its power. For example, if humans cannot master planning information, or if their emotional status greatly influences thinking, the model, at some unspecified breakpoint, becomes unrealistic and useless.

Evidence cited in sections IV makes a strong case that executives experience much trouble grappling with uncertainty. Additionally, even sophisticated decision makers experience severe difficulties in trying to learn complex relationships (V). Moreover, strategists can overlook, mis-specify, and miscalculate conflicts of interest. They have the motives and opportunity to act selfishly (VI). Lastly, research shows that strategic decision making situations can evoke powerful emotional forces (VII).

Obviously, these difficulties, singly or in combination, can undermine the quality of strategic thinking. But this evidence does not amount to an indictment of strategists'

abilities. Simply on the basis of this evidence alone, one is not justified in concluding that strategists are "dumb" or ineffective. To what standards of intelligent strategic thinking should one appeal? How high is the general level of strategic thinking across a set of interconnected set of decisions? How important are the mistakes? How many strategists (or plans) fall into these traps?

Nevertheless, the evidence suggests that cognitive operations can easily endanger the entire strategic process. For the most part, these cognitive habits are cultural phenomena — not genetic or programmed phenomena. Therefore, difficulties can be mitigated, alleviated or avoided altogether, thereby raising the level of effectiveness of strategy-making (regardless of how one judges its present sufficiency). Theorists, consultants, and practitioners need to realize the power of the GPS model has had in suppressing important issues in strategic planning. Planning needs to incorporate effective means for coping with uncertainties, complexity, conflict, and emotional involvement.

This section describes techniques which focus on dealing with these key challenges to planning. My objective consists in summarizing a "toolbox" of useful techniques. The discussion is aimed at theorists, consultants and practitioners who are grappling with the practical problems of strategic planning for a wide array of strategic decisions in any organizational context. The techniques cited here are ones which offer broad support for strategic planning processes, not narrowly-defined techniques merely useful for one specific stage of planning or special applications. For each technique I outline its principal focus, the problems which it deals with (or makes worse!) and important limitations.

1. DIALECTICS AND DEVIL'S ADVOCATE.

Dialectical inquiry (Mason, 1969; Mitroff & Emshoff, 1979) and "Devil's Advocate" (Cosier, 1978) are methods for testing the quality and justifications for strategic decisions. When executives use dialectics or devil's advocate, strategic assumptions behind a plan must face challenging critical evaluations.

i. Method. According to Mason & Mitroff (1981), strategic assumption surfacing and

testing (a formal method for dialectics) is participative, adversarial, and mind expanding. Dialectical inquiry requires dividing up executive groups on the basis of their strategy preferences, getting them to probe into the assumptions which surround their favorite strategy, testing these assumptions with logic, debate, and perhaps additional information gathering, and finally accepting a group consensus on the best strategy. Under devil's advocate, policy-making groups appoint an individual whose responsibility is to point out the shortcomings of any decision.

ii. Benefits. These methods seem especially helpful for dealing with uncertainty, multiple interests, and ego involvement. Dialectics and Devil's Advocate promote the careful examination of uncertainties, paying attention to stakeholder groups involved with strategy, and they can expose hidden self-interests (or make them untenable).

iii. Limitations. Although dialectics is heralded as a general method for strategic planning, its scope is limited to testing strategies already arrived at. For instance, dialectics provides no help toward defining strategic issues, scanning, or generating alternatives. Nor does dialectics offer any help regarding how to handle the complex analyses dialectics might require. Additionally, dialectics practical effectiveness has become a matter of debate (Schweiger et. al., 1986).

2. CREATIVITY.

A creative strategy which establishes a competitive advantage for an organization can sustain that organization for decades. Generating creative strategies can represent a crucial output of strategic planning.

i. Methods. A multitude of methods for improving creativity have been proposed. Zwicky (1969) recommended morphological analysis. Many corporations have used synectics (Gordon, 1961) to develop metaphors and analogies to aid problem solving. "Conceptual blockbusting" explains a variety of techniques which can overcome or sidestep mental blocks to thinking (Adams, 1980).

ii. Benefits. Presumably, any of these methods can generate a novel, strategic idea.

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In doing so, vexatious problems of uncertainty and complexity might be completely swept aside.

iii. Limitations. Many different creative techniques promise to produce interesting strategic ideas. But, with the exception of synectics, most of these techniques work on a very narrow scope. That is, these methods are activities confined to a couple of hours one afternoon and it's over. Such tactics are inconsistent with research on individual creativity which stresses the need for a long developmental period. They don't tie into preceding or subsequent activities, political issues, or existing organizational psychology. Nor do most creative techniques provide for a systematic evaluation of their creative output. To put it another way, these techniques are tactical, not strategic in their relevance to strategic planning processes.

We have no studies which compare different creative techniques in terms of their strategic planning utility.

4. MULTIPLE PERSPECTIVE METHODS

● Composition of strategic teams. Jung (1924) proposed a theory of individual differences in problem solving. Jung's theory divides decision-makers into four problem solving types. These problem-solving types derive from individual cognitive preferences: feeling versus thinking, and sensing versus intuition. Additionally, contemporary studies also show that some people are more cognitively complex than others (Streufert & Streufert, 1978). Higher cognitive complexity correlates with more fully developed abilities to differentiate and integrate information, higher stages of adult development, accurate perceptions, and effective behavior (Bartunek et. al., 1983).

Authors have discussed the implications of Jung's theory for constructing teams of strategists (Ramaprasad & Mitroff, 1984). A strategist should collect a set of advisors whose cognitive styles complement each other. The cognitive complexity prespective argues that those persons selected should also score high on cognitive complexity, to correspond to the complexity of strategic issues. The administration of simple standard tests qualifies potential participants.

● Theoretical orientations. Bolman and Deal (1984) developed a method for analyzing situations from multiple theoretical perspectives. They showed that "structural", "human resources", "political", and "symbolic" approaches can frame complex situations. "Frames" provide a method for structuring and categorizing uncertainty, for defining objectives, and for eliciting alternatives. The method offers help in diagnosis, alternative generation, and implementation of plans.

● Linstone et. al., (1984) offered another multiple-perspective approach for dealing with complex technical decisions. Their model basically derives from Allison's Essence of Decision (Allison, 1971). Linstone investigates the interrelationships of three broad areas: technical, organizational, and personal; including elements technology, physical setting, socio-technical setting, technopersonal setting, organizational actors, individual actors, political action, and decisions. A team is chosen, including representatives from each perspective. These teams are interparadigmatic rather than interdisciplinary. The output ranges from technical reports, to vignettes, interviews, oral briefings, stories, and fictional formats.

ii. Benefits. Each of these theoretical perspective implies that teams of strategists surpass individual decision makers in making quality strategic decisions. The primary improvement comes from a the group's better appreciation of the complexities of the strategic issue at hand by virtue of their differences in training, cognitive styles, and interpersonal orientations. The models also highlight conflicts of interest, and the need to explore uncertainties.

Linstone et. al. offers more systematic procedures than Bolman & Deal or Ramprasad & Mitroff. Also, Linstone's ideas of expertise and communication cover a much broader range than the Bolman & Deal model, and their procedures are sensitive to political and personal sensitivities of implementing the process.

iii. Limitations. From a strategic planning perspective, the problem of integrating multiple perspectives is paramount. Each of these models can generate much more complexity than it is prepared to integrate.

Surprisingly, Linstone et. al. are not sure whether integration is either possible or desirable. Lastly, we have little evidence about the relative effectiveness of these methods in practical settings.

5. DECOMPOSITION AND HIERARCHIES

i. Decomposition methods. Simon (1960), Braybrooke & Lindblom (1963), Kepner & Tregoe (1965) and described methods for problem separation. Decision makers must decompose complex strategic issues into smaller elements so that an organization can take advantage of its specialized knowledge and capabilites. Decomposition methods also facilitate parallel information processing, which is faster than sequential processing.

MacCrimmon & Taylor (1976) explained how to look for the changes that precipitated an issue, how to factor complex problems into simpler subproblems, and how to focus on controllables to solve problems.

ii. Hierarchies. Hierarchies help individuals or groups to specify tangible and intangible elements of a decision problem. Saaty et. al. (1982) developed a method called "Analytical Hierarchies" to systematize decision making. Analytical hierarchies guides groups in assessing complex decisions involving uncertainty, multiple levels of criteria, and multiple alternatives. An optimum solution is calculated on the basis of quantitiative criteria and estimates of decision parameters and consequences. Multi-attribute utility analysis (MAU) is another technique for structuring complex decisions (Taylor, 1984).

ii. Benefits. These techniques have the virtue of using practitioner preferences and knowledge in combination with with computationally simple methods. They have the power to integrate complex considerations. Moreover, hierarchical methods have an image of rationality and optimality consistent with the spirit of strategic planning.

iii. Limitations. In relying on practitioner knowledge, problems of validity, reliability, and self-interest arise. Certain strategic considerations do not lend themselves to computation. Furthermore, these techniques tend to suppress the ambiguous and conflict-laden aspects of information and decision criteria.

6. STRATEGIC DECISION SUPPORT

The rapid evolution of computing systems has led to the invention of new decision-aids for strategic decision making.

● Cognitive Maps. Cognitive maps use matrix algebra to represent complex cause-effect relationships (Diffenbach, 1982; Ramaprasad & Poon, 1985). Data is generated by questionnaires, or console time from a strategist. Mapping easily adapts to planning because the data derive directly from practitioners' knowledge of their industry, it is mathematically simple, and the software runs on personal computers (Ramaprasad & Stubbart, 1986), and practitioners do not have to rely on consultants' mumbo-jumbo. Software provides the user-strategists with routines to map their knowledge, to explore interralationships, logic, and consequences within their maps. Similar methods include systems dynamics (Forrester, 1976) and KSIM (Kane et. al., 1973) a systems simulation approach used by interdisciplinary teams.

ii. Benefits. Methods in this category are limited to the narrow but important problem of exploring and understanding complexity.

iii. Limitations. The techniques listed are each limited by reliance on strategists' existing (possibly flawed) knowledge. Nor do these techniques offer any assistance for the problems of conflict of interest or ego involvement in strategy making.

7. STAKEHOLDER ANALYSIS

i. Method. Freeman (1984) described a method for "stakeholder analysis" which incorporates the viewpoints and values of a wide range of organizational participants. Stakeholder analysis integrates the need to acknowledge multiple constituencies with traditional planning queries such as "What is our business." It is a highly analytical procedure, calling for much information about a wide range of stakeholders.

ii. Benefits. Its major contribution is the central place it assigns to the analysis of organizational stakeholders.

iii. Limitations. Freeman's method generates much complexity. But the stakeholder technique doesn't give much assistance regarding how to synthecize the complex data it

generates, or how to make decisions about stakeholder issues. Stakeholder analysis says

nothing about uncertainty. Moreover, it is surprising that a method so well attuned to

conflict of interest is inattentive to the conflict of interest and ego issues which using the

stakeholder model itself will bring to the fore!

8. PREVENTING GROUPTHINK

i. Method.   Janis presented tactics for preventing groupthink in policy making groups:

- leaders should not state decision preferences at the outset.
- leaders should encourage criticism and doubt.
- every meeting should contain a 'devil's advocate'
- split the main group into sub-groups to stimulate options.
- devote special time to studying rival's signals and build
    alternative scenarios of rival's intentions.
- hold a second meeting after a decision is reached to voice residual
    doubts and rethink.
- bring individuals from outside the core group to each meeting.
- encourage members to discuss the groups' deliberations with trusted
    colleagues.
- establish multiple groups (with separate chairmen) to discuss a
    single issue.

ii. Benefits. If all these tactics can be put into place, then instances of groupthink

might be averted. Uncertainty can be acknowledged under these conditions. With outsiders

present, at least some differing interests might be weighed.

iii. Limitations. Preventing groupthink seems to depend on starting with leaders and

followers who are already unlikely to fall prey to groupthink. After all, "encouraging

criticism and doubt" for example, calls for restraint on the part of leaders and daring on the

part of subordinates. Janis' tactics will increase uncertainty, generate additional

complexity (e.g., additional groups deliberating).

9. DISMANTLING DEFENSIVE ROUTINES.

Argyris' studies show that defensive routines present the greatest obstacles to

successful implementation of strategic planning (Argyris & Schon, 1978; Argyris, 1982 & 1985).

i. Method. Dealing with defensive routines requires several difficult steps. First,

consultants diagnose and map strategic organizational issues. Next, facilitators guide

executives in exploring their defensive reasoning processes about strategic problems and

issues.

Intervention techniques include interviews, observation, and role-playing using case studies. Lastly, executives learn how to short-circuit defensive reasoning. Confronting and dismantling defensive routines leads to using more valid data; more explicit premises and inferences, and testable conclusions.

ii. Benefits. Executives learn skills for dealing forthrightly with threatening information in strategic planning, decreasing the gap between "theories in use" versus "espoused theories."

iii. Limitations. Argyris' method rests on very optimistic assumptions about how fast, how efficiently, and how thoroughly groups of executives can learn to deal with their emotions and self-interests. The technique is also inattentive to uncertainty or complexity issues.

10. COPING WITH STRESS.

Organizations can take a number of steps to control the stress levels of executives who are involved in "hot" strategic decisions.

i. Methods. Whetton and Cameron (1984) listed a number of steps for defusing stress:

- Time management training.
- Support networks for executives.
- Sponsor physical activities.
- Arrange planning events, meetings, reviews, etc. in
  ways that minimize stress.

ii. Benefits. Stress reduction has a positive effect on executive health and executives' ability to process uncertain and complex information. Executives experiencing less stress (especially ego-threatening stress) are less preoccupied with self-interest calculations. Studies document some of the stress-reduction benefits of company efforts.

iii. Limitations. Stress reduction probably has no relationship to conflict of interest issues, or complexity. Additionally, research evidence about the relative benefits of different stress reduction programs is not yet available.

11. SUMMARY.

I do not foresee any new totalizing framework to replace frameworks such as those listed in Exhibit One. To search for a total, context-less, generalizable framework for planning is probably a mistake.

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Instead, strategic planners need to know a broad array of techniques which can be flexibly brought to bear within local planning circumstances and conditions.

Nevertheless, the techniques listed in section xx offer some scope for some integration. Try to arrange elaborative processes and reductive processes to establish a wave-like pattern of "openings" followed by "closings." For example, Acar et al. (1985) found a way to combine dialectics and   . Or, an expanding technique like stakeholder analysis might be linked up to cognitive mapping, and in turn analytical hierarchies — reductive techniques.

IX. CONCLUSION

Strategic planning gained a large scholarly and practitioner following who hoped to use planning to bring an organization's future under rational control. Scholars and practitioners alike rushed pell-mell to transform the idea of planning into an routine organizational system. Lately, the practitioners' complaints have caused a lessening of scholarly hyperbole and more restrained claims about what planning might actually achieve.

To sum up, it is hardly surprising that strategic planning has proven to be a mixed blessing for practitioners. I argued in this paper that information processing models of human intelligence systematically diverted attention from pivotal issues which everyday planners cannot safely ignore. Strategic planning theorists advocate an information processing model for which key operations remain unprogrammable. Because uncertainty, complexity, conflict and affective involvement demarcate strategic decisions from other kinds of decisions, the GPS model does not provide an altogether secure theoretical basis for defining the shape of planning. Its roots are firmly tied to theoretical models aimed at solving routine problems instead of empirical experience with ill-structured problems. In this way theorists often relegate the pivotal issues of uncertainty, complexity, and emotional involvement to a limbo status -- something to get worked out in practice -- something the practitioners can (implicitly) handle themselves. The implementation of planning lays the cognitive burden on the strategists, who know full well that simple line drawings of planning skim over certain

necessary (but missing) algorithms, for instance the algorithms for environmental scanning, or generating the best alternatives. Treated like human computers, practitoners are denied precisely the guidance which is most crucial to resolving their practical problems in planning.

Scholars are largely content with this state of affairs in planning (I think) because they believe in the overall strength of the information systems model as a robust ideal for individuals and organizations to follow, and because they cling to unwarranted assumptions about strategists' intelligence, knowledge, and probity. Empirical studies furnish scant evidence to support that view.

Remedying the damage caused by over-commitment to simplistic models of strategy entails a more sophisticated, more careful, and interdisciplinary perspective on what planning is and what it can accomplish. I advised theorists to stop treating strategic planning as a byzantine clockworks developed for computing machinery and to begin coping with the excruciating difficulties which planning engenders. If planning primarily aims at making high-quality strategic decisions, then the intersection of strategic decision contexts and human (not computer) capabilites form the central nexus driving design considerations.

EXHIBIT ONE
A STRATEGIC PLANNING PROCESS

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AUTHOR(S)   STEPS IN PLANNING

Schendel & Hofer   goal formulation/ strategy formulation/ environmental
(1979)   analysis/ proposed strategy/ strategy evaluation/
                      strategy choice/ strategy implementation/ strategic control.

Steiner, Miner   Define company/ analyze customers/ analyze industry/
& Gray (1982)   find opportunities, strengths, threats, weaknesses/
                      identify strategies/ evaluate strategies/ develop
                      objectives/ prepare plans/ monitor performance

Andrews (1980)   ....

Mazzolini (1981)   Decision-need identification/ search for alternatives/
                      investigate courses of action/ review and approve/
                      implementation.

Lorange & Vancil   Set objectives/ evaluate strategies/ set strategies/
(1977)   evaluate programs/ set programs/ set budgets.

Armstrong (1982)   specify objectives/ generate strategies/evaluate
                      strategies/ monitor results.

Ryans & Shanklin   situation analysis/ state philosophy/ alternative
(1985)   scenarios/ master plan & contingencies/ mission
                      statement/ map strategies/ implementation and control.

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